HAVE CHINESE AMERICANS ACHIEVED EARNINGS PARITY WITH WHITES?

A Thesis

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ABSTRACT

Despite the population of Chinese in the United States increasing dramatically, there are few sociological studies focusing on the economic dimension of Chinese Americans' assimilation into the White-dominant society. The lack of study can be explained by three major reasons: the traditional research approach which grouped Chinese Americans into Asian Americans, the contradiction between the influential majority-minority paradigm and the socioeconomic achievements of Chinese Americans, and data limitation.

The following study examines whether Chinese Americans, by U.S. nativity and U.S. educational experience, have lower earnings than non-Hispanic native-born Whites and investigate their earning returns to occupational status. Based on the 2008 to 2012 sample data from American Community Survey, the result of this study indicates that U.S.-born Chinese Americans have achieved overall earnings parity with their White counterparts, while U.S.-educated Chinese immigrants must attain more education in order to achieve earnings parity with native workers; only the foreign-educated Chinese immigrants are most likely to be at a significant disadvantage in earnings.

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1. INTRODUCTION

The population of Chinese in the United States is increasing. This has resulted in the Chinese having a larger share of the U.S. population. According to five-year estimates based on the 2013 American Community Survey (ACS), the number of Chinese individuals (Taiwanese included) living in the United States reached 3,578,774 in the year of 2013. The Chinese are the largest Asian-origin group in the U.S., representing about 23% of Asian Americans and 1.1% of the entire U.S. population. Of the approximately 3.6 million Chinese in the U.S. in 2013, 46% were born in mainland China, while the rest were either U.S.-born citizens or immigrants from Taiwan, Hong Kong, Southeast Asia, or other countries. An analysis based on the same ACS data, asserted recently that China is replacing Mexico as the most common country of origin for immigrants to the United States (Jensen, Knapp, Borsella, Nestor, 2015). From 2011 to 2013, China was ranked the second source country of new lawful permanent residents (LPRs), at 7.2%, in the United States (Monger & Yankay, 2014).

Despite the increasing size of the Chinese population in the United States, there are few sociological studies focusing on Chinese Americans compared to studies focusing on persons from Mexico. There are three major reasons. First, as a subgroup of Asians, Chinese Americans have rarely been discussed by themselves; often they are grouped into the larger category of Asian Americans. But as many scholars have argued (Borjas, 1994; Zeng & Xie, 2004; Zhou, 2009), the racial category "Asian" refers to a highly heterogeneous group comprising ethnic subgroups with different national

origins, cultures, affluence, and pull and push factors of immigration. Further, post-immigration, these ethnic differences profoundly shape the fate of immigrants in the host country. For example, although Asian Americans in general have attained relatively high socioeconomic status, significant differences have been found among the Asian ethnic subgroups in their levels of social and human capital, income, and poverty rates (Poston, 2002; Zeng & Xie, 2004). In fact, high socioeconomic success has really only been observed in certain Asian subgroups, and not in all of them (Sakamoto et al., 2009). Immigrants from Vietnam and Laos have usually been unskilled refugees with little human capital; immigrants from Taiwan and India have mostly been highly educated professionals. Immigrants from South Korea have tended to be self-employed as small-business owners (Zhou, 2009). Thus, generalizing about the socioeconomic performance of Asian Americans as a whole is problematic because it ignores the significance of specific ethnicities, such as the Chinese.

Moreover, the dearth of Chinese American topics of sociological inquiry may result from the contradiction between the influential majority-minority paradigm and the socioeconomic achievements of Chinese Americans. Contemporary sociological studies of race and ethnicity often seek to defend the dominant research paradigm with evidence of a minority's disadvantaged situation associated with their minority status. Despite their minority status, the average education and income of Chinese Americans are significantly higher than those of non-Hispanic Whites. This seems to run counter to the assumption of the majority-minority paradigm that racial and ethnic minorities are in a subordinate socioeconomic position to the White majority.

Data limitations are another reason for the limited studies of Chinese Americans. When I decided to conduct quantitative research on this population, there were not many survey data sets for me to use. Even the ACS data did not provide all the key variables. Besides, Sakamoto and colleagues (2009) once pointed out that some major surveys have engaged in oversampling to obtain adequate sample sizes of minorities, and not just Asian Americans. Indeed, the lack of data would appear to be reinforced by the lack of research interest.

My interest in studying the Chinese population in the United States is rooted in the circumstances of my own migration. In the 1990s in China, when going to America was becoming "the thing to do," I watched many television shows and movies that reflected the life of Chinese in America and their "American Dreams." Those stories typically characterized Chinese people as either clustered in ethnic enclaves and engaging in low-wage and very exhausting work, such as washing dishes all day in a back kitchen, or they were characterized as persons who pursued professional education and high-paying jobs to get closer to the stereotypical American, middle-class lifestyle. They shared the American Dream: having a better life by adhering to the principles of hard work and obtaining a green card to settle themselves securely in U.S. society. In other words, these Chinese immigrants proactively sought ways to assimilate into mainstream American society, though their paths to assimilation were full of obstacles. These television shows and movies in which Chinese immigrants overcame so many disadvantages and challenges to realize their American Dream encouraged waves of

young people to leave China, travel to America, and pursue different life experiences. I am one of them.

What triggered my interest in researching Chinese Americans was my first visit to Chinatown in Houston. Before that trip, I had never set foot in any overseas Chinese community, and I imagined that a Chinatown would resemble the type seen in the media, largely distinct from the surrounding Western world, with its traditional Chinese features and primarily Cantonese-speaking residents. When I first visited Houston's Chinatown, I could not believe it was a real Chinese community because it presented me with so few legacies of Chinese culture. Rather, it was constructed in accordance with American modernism—broad plazas, huge billboards, and contemporary architecture. Moreover, Mandarin was more commonly spoken than Cantonese, and restaurants offered a variety of regional cuisines, reflecting Houston's sizable Chinese population originating from all over China. Everything I saw indicated that this Chinatown had completely evolved into a full-fledged business and entertainment arena; it was not functioning solely as a residential shelter like a conventional ethnic enclave.

"Why?" I asked myself. Puzzles and curiosities turned into sociological inquiries: Have Chinese Americans assimilated into mainstream American society? How do they make it? In this paper, I explore the economic dimension of Chinese Americans' assimilation into the White-dominant society. Specifically, I will examine whether Chinese Americans have lower earnings than non-Hispanic native-born Whites and investigate their earning returns to occupational status. I will include a historical

overview of Chinese immigration to the United States. I will then examine the demographic and socioeconomic diversity of contemporary Chinese Americans. I will compare analyses using two sets of occupational socioeconomic indexes. I will estimate a multivariate regression to examine earnings difference between Chinese Americans and non-Hispanic native Whites with respect to socioeconomic status. And I will discuss the assimilation paths taken by contemporary Chinese Americans.

2. CHINESE IMMIGRATION TO THE UNITED STATES

In the late 1840s, the first flow of Chinese immigrants to the United States started from a small village in Guangdong Province in southern China. They arrived in the U.S. after a months-long Pacific crossing by steamship. They came to America in response to the high demand for inexpensive labor during the California Gold Rush. Later, thousands more Chinese men were motivated to escape the desperate life circumstances in China and they sought temporary jobs in the United States. The initial Chinese community was 90% male because Chinese females' immigration was strictly restricted by the United States government up until 1872. As a consequence, the Chinese population in the U.S. grew mainly through active immigration rather than through natural increase. With little human capital and English proficiency, these Chinese workers were willing to take low level jobs with little pay. These were largely the so-called "three-D" jobs, that is, jobs that were dirty, difficult, and dangerous. These were often jobs in gold mines, in railroad construction, and in agriculture. For these Chinese immigrants, America was more like a dream place to "dig for gold" rather than a place in which to settle permanently. The Chinese planned eventually to return to China to reunite with their families as soon as they filled their pockets with gold and glory.

However, not many Chinese immigrants were lucky enough to realize the American Dream. Native-white U.S. workers came to resent the increasing competition with the Chinese workers because they feared those workers would drive down average

wages and steal their jobs. The resentment of and discrimination against the Chinese workers increased substantially, leading to the Chinese Exclusion Act, finally passed by the U.S. Congress in 1882. The act prohibited the entry into the U.S. of all Chinese labor immigrants in the following decade. It was largely a response to the intense nativism in the United States. Only a small number of Chinese people were allowed to enter the United States owing to their preferred occupations as diplomats, merchants, and students. In addition to legal exclusion, Chinese residents in the United States suffered discrimination and persecution. Often, without work and becoming victims of violence, many Chinese immigrants gave up hope and left the United States forever; those who could not afford a return trip were pushed into isolated urban enclaves, which evolved into Chinatowns (Zhou, 2009). Living in the equivalent of ghettoes, without civil rights, these Chinese Americans also lacked educational resources and remained unskilled. Only a few of them were merchants.

The Exclusion Act was extended for the next ten years in 1892, then made permanent in 1902, and eventually revoked in 1943 (Poston & Luo, 2007). The act and its amendments significantly altered the demographics of the Chinese American community. Table 1 shows the changes over time and the impact of the Exclusion Act. The population of Chinese Americans declined from 107,475 in 1890 to a historical low of 85,202 in 1920, but then by 1940 it increased to 106,331. At the same time, the sex ratio of Chinese Americans dropped precipitously from 2,679 males for every 100 females in 1890 to 224 males per 100 females in 1940, allowing these Chinese Americans to start families. As a consequence, the percentage of Chinese Americans

born in the United States increased from 0.7% in 1890 to 30.1% in 1920 and to 51.9% in 1940. The increasing size of the Chinese American population up to 1940 resulted more from increasing birth rates than from immigration.

Table 1. Demographic Changes in the Chinese American Population, 1890–2010

Year	Number of Chinese Americans	Sex ratio*	% born in United States
1890	107,475	2,679	0.7%
1990	118,746	1,385	9.3%
1910	94,414	926	20.7%
1920	85,202	466	30.1%
1930	102,159	296	41.2%
1940	106,334	224	51.9%
1950	150,005	168	53.0%
1960	237,292	133	60.5%
1970	435,062	110	53.1%
1980	812,178	102	36.7%
1990	1,645,472	99	30.7%
2000	2,422,970	92.9	29.1%
2010	3,294,615	88.7	30.9%

Data Source: U.S. Census Bureau., Zhou (2003)

The second period of Chinese immigration dates back to World War II, when the United States and China became close allies. The improvement in the two countries' relations promoted a series of mutually beneficial policies such as the Magnuson Act, also known as the Chinese Exclusion Repeal Act of 1943. This act reinstituted Chinese

immigration for the first time since 1882, and it permitted Chinese nationals already residing in the United States to become naturalized citizens. However, the United States was not prepared to receive a large flux of immigrants, so the new immigration policy was implemented with a quota system: only 105 visas were granted each year to selected Chinese nationals to enter the United States.

Several remarkable changes in the 1960s and 1970s led to a new era of Chinese immigration, which have continued to the present. The civil rights movement in the 1960s brought Chinese Americans out of the shadows of racial discrimination; the 1964 Civil Rights Act secured basic rights theretofore declined to Chinese Americans. The Immigration and Nationality Act of 1965 further opened the door to Chinese immigration. In the 1970s, frozen diplomatic relations thawed between the United States and the People's Republic of China, loosening China's governmental control of its citizens to immigrate to the United States. As shown in Table 1, the population of Chinese Americans has almost doubled every decade since 1960 and increased dramatically after 1980; sex ratios have reached a balance; and the declining number of U.S.-born Chinese Americans indicates that once again immigrants comprise the majority of the community.

Moreover, the educational levels of Chinese Americans have substantially improved, and their fields of study are now highly concentrated in science, technology, engineering, and math (STEM) fields. In 2013, 43.5% of Chinese Americans held a bachelor's degree or higher, compared with 24.3% of non-Hispanic native-born Whites. Chinese Americans tend to choose majors that may yield high earnings, such as STEM

or business-related majors. Their higher educational attainment is reflected in their occupations: more than half of Chinese Americans work in high-paying professions such as management, business, science, and engineering. In 2013, the mean income of Chinese Americans was $71,491 with a median of $53,361, while the mean for non-Hispanic native Whites was $59,848 with a median of $44,765.

This previously excluded ethnic group, once predominantly employed in low-level labor positions, is now one of the most socioeconomically "successful" minority groups in the United States (Poston & Hua, 2007; Wong, 1980; Zhou, 2003). This paper focuses on whether and how contemporary Chinese Americans have achieved socioeconomic advancement in the United States.

3. CONTEMPORARY CHINESE AMERICANS: INTRA-POPULATION DIVERSITY

3.1. Diverse Places of Birth

The second wave of Chinese immigrants, also known as the post-1965 Chinese immigrants, tended to be more heterogeneous than the first wave, thus generating new patterns of immigration. The first wave came almost entirely from the Canton region, whereas the second originated chiefly in Hong Kong, Taiwan, and Southeast Asia. Conversely, from 1978 to the present, a greater proportion of immigrants have come from mainland China.

The current Chinese American community varies in language, culture, and pre-immigration affluence, among other traits. For example, because English is the official language in Hong Kong and Singapore, those immigrants may be as fluent as native-born White speakers, while those from Taiwan and mainland China may be less proficient. National origin is a determining factor in immigrant qualities. Between the early 1960s and 1990s, Singapore, Hong Kong, Taiwan, and South Korea were referred to as “the Four Asian Dragons” for their exceptionally high economic growth rates and rapid industrialization. Mainland China, on the other hand, did not shift its focus to economic growth and open to the world until 1978. When mainland China’s immigrants arrived in the United States in the early 1980s, immigrants from Taiwan, Hong Kong, and Singapore had already been doing well in the U.S. society. For example, in 1990, the percentage wage differential between Taiwanese male immigrants and U.S. native

men was 13.9, while that between mainland China's male immigrants and U.S. native men was -21.3 (Borjas, 1987).

In general, a country of origin's development level influences its immigrants' economic performance in a host country. In his analysis of immigrants from 41 countries, Borjas (1987) noted that only a few variables in the political and economic conditions in the countries of origin explained over two-thirds of the inter-country variance in the mean U.S. incomes of immigrants with the same skills. Thus, it is likely that the economic performance of Chinese immigrants in the U.S. labor market has also been significantly affected by their places of origin. To rule out the variability of place of origin, in this paper "Chinese immigrants" refers only to those who originated in mainland China

3.2. Nativity

Because many Chinese immigrated to the U.S. in the 1980s, the contemporary Chinese American community comprises both U.S.-born Chinese Americans and foreign-born Chinese immigrants. Although both groups are Chinese, the second generation of immigrants is intrinsically distinct from China-born immigrants. The former group's U.S. nativity plays an essential role in occupational status attainment. For instance, native workers have the right to work for any U.S. employer, without needing a work visa, whereas foreign workers often encounter employment restrictions associated with their immigration status.

Studies attempting to determine whether Asian Americans are disadvantaged in earnings have found that U.S. nativity plays a segmentation role in earnings. In

particular, such studies have maintained that U.S.-born Asian Americans are not significantly disadvantaged in earnings compared to their White counterparts; foreign-born Asian immigrants, however, experience a clear disadvantage (Iceland, 1999; Sakamoto & Furuichi, 2002; Zeng & Xie, 2004). According to Orrenius, Zavodny, and Kerr (2012), Chinese immigrants who obtained legal work status and then a green card via the Chinese Student Protection Act (passed in 1992) experienced significant gains in employment and earnings. Nativity has also been associated with gaps between U.S.-born Chinese Americans and China-born Chinese immigrants in culture, language, and social and human capital, as well as socioeconomic status attained. Thus, I separate in this paper U.S.-born Chinese Americans from China-born Chinese immigrants.

3.3. Place of Education

The pre-migration socioeconomic statuses of the second flow of immigrants from mainland China have profoundly shaped their socioeconomic attainment in the United States. Chiswick and colleagues (2005) have noted a U-shaped pattern in immigrants' occupational status in a host country. To attain an occupational status equivalent to that of their last job in the origin country, immigrants must possess knowledge and skills that are highly transferable. Immigrants whose skills and knowledge are scant or less transferable may still reach their former status by gaining new skills specific to the host country's labor market or by increasing the transferability of skills they already possessed. Whether they are able to make such investments in their human capital largely depends on their pre-migration socioeconomic status. I will

analyze occupational attainment for two common types of contemporary Chinese immigrants: student immigrants and temporary labor immigrants.

Chinese students who attend U.S. schools can be divided into two groups: students supported by their families, and students who must acquire other sources of support. The former group's family socioeconomic statuses usually rank much higher than the average in China because only few families could afford the high cost of completing a degree in the United States. With family's financial support, these students can make direct investments to gain human capital that matches U.S. labor market expectations.

"Other support" for Chinese students refers to funding sources such as scholarships, fellowships, assistantships, and other funding available to foreign students. Because of the selectivity of U.S. schools and funding sources, this group is highly accomplished, but may not come from affluent family backgrounds. These students may not have high pre-migration socioeconomic status, but they have the capacity to achieve such status, whether in China or the United States. They are very intelligent and disciplined, as reflected by perfect or near-perfect college and graduate school entrance exam scores, flawless personal records, and good recommendation letters. Thus, it is their pre-migration excellence that helps them gain human capital in the United States. In academic year 2013-2014, the total number of students originating in China was 274,439. Of these, 82% were pursuing a bachelor's degree or higher (Institute of International Education, 2015). Regardless of their source of support, Chinese immigrants educated in the United States will gain knowledge and skills

valuable in the U.S. job market. Additionally, because of the policy details of the F-1 Optional Practical Training visa and the H-1B visa, international students who hold a bachelor's degree or higher from an accredited U.S. university, compared with immigrants who do not, have far fewer barriers to obtain work authorization for employment in the U.S.

Nowadays, temporary labor immigration is much different from previous labor immigration; this sub-population now comprises a very small proportion of Chinese immigrants. For instance, according to the 2013 Annual Flow Report (Foreman & Monger, 2014) produced by the Department of Homeland and Security, there were a total of 2,098,801 non-immigration admissions of Chinese citizens — only 2.5% of all admissions for temporary workers and their families.

Temporary workers can be differentiated by skilled and unskilled visa type: skilled workers hold an H1 visa and unskilled workers hold an H2 visa (Poston & Luo, 2007). The H1 visa is frequently referred as H-1B because the population holding the other two H1 visa types (H1B1 and H1C) are too small to be considered. The H-1B visa permits a foreign worker to be temporarily employed in specialty occupations related to that worker's field of study. Chinese students in the United States have been major beneficiaries of H-1B visas.

For temporary workers, their place of education matters. The immigration dynamics and socioeconomic attainment patterns of China-born skilled workers who acquired their entire education outside the United States are different from those of China-born, U.S.-educated skilled workers. Kim and Sakamoto (2010) demonstrated

that Asian-Americans educated entirely in foreign countries have significant earnings disadvantages. They also found that obtaining one's highest degree from a U.S. educational institution after completing high school overseas reduces those disadvantages. Zeng and Xie (2004) found that the earnings difference between foreign-educated Asian immigrants and U.S.-educated Asian immigrants is associated with their place of education. Kaushal (2011) further confirmed that significant income gaps exist between foreign-educated immigrants and U.S. natives of similar educational levels. U.S.-educated, foreign-born science and engineering professionals have significantly higher growth in earnings than their foreign-born counterparts who were not educated in the United States (Kaushal, 2011).

In light of the findings about immigrants' earnings and the diversity of contemporary Chinese Americans, I have classified them into three subgroups, according to their nativity and place of education: U.S.-born Chinese Americans; China-born, U.S.-educated Chinese immigrants; and China-born, foreign-educated Chinese immigrants. By doing so, I can systematically test—by Chinese ethnicity, nativity, and place of education—whether Chinese Americans earn less than non-Hispanic native Whites in the same socioeconomic status, and if so, what might be contributing to the disparities.

4. OCCUPATIONAL SOCIOECONOMIC SCORES

Occupational socioeconomic scores are frequently used in social science research because they are easy to use and they are thought to represent an important aspect of social life (Warren, Sheridan, & Hauser, 1998). In this paper, I use two popular occupational socioeconomic scores, the Nam-Powers-Boyd Occupational Status Score and the Hauser-Warren Socioeconomic Index, to estimate the return rates of earnings to occupational standing for native non-Hispanic Whites and Chinese Americans.

Developed in 2000, the Nam-Powers-Boyd Occupational Status Scores are an updated version of the original Nam-Powers Occupational Socioeconomic Scores, developed at the U.S. Census Bureau in the late 1950s. Advocates of these socioeconomic occupational scores argued that they are "pure socioeconomic" scores because these scores are objectively grounded in the average education and income of each occupational incumbents. Only U.S. Census Bureau data on education and income were used in the construction of these scores to represent the average level of an occupation's socioeconomic. The scores cannot be applied to a particular individual but rather to the typical person in that occupation (Nam & Boyd, 2004). Nam and Powers (1968) described the procedures used to compute the original scores as follows:

> (a) arraying occupational-industry combinations according to the median educational level of men aged 14 and above in the experienced civilian labor force; (b) arraying occupations separately according to the median income level

> of the same population; (c) using the number of persons engaged in each occupation, determining the cumulative interval of persons in each occupation for each of the two arrays, (d) and averaging the midpoints of the two cumulative distributions of occupants and dividing by the total experienced civilian labor force to get a status score for the occupation. (Nam & Powers, 1968, p. 159; Mutchler & Poston, 1983)

The scores range from 0 to 100. Compared to other occupational scales, this method of measuring occupational status has two major advantages. First, its essence remains constant even if the occupational classification changes over time because this measure is rooted in objective educational levels and income. Second, the interpretation of the scores is straightforward as the location of individuals in a detailed occupation based on the Census classifications of occupations (Nam & Boyd, 2004).

Unlike the Nam-Powers-Boyed scores, the Hauser-Warren Socioeconomic Status Index is a partly subjectively-based socioeconomic measure because it not only considers education and income, but also emphasizes the prestige of an occupation. This method was developed on the basis of Duncan's Socioeconomic Index (SEI), which was created in 1961. Deriving education and income data from the U.S. Census Bureau and occupational prestige information from the National Opinion Research Center (NORC) survey, Duncan constructed the SEI though multiple regression procedures by predicting the occupational prestige based on two age-standardized occupational attributes: education of 1950-basis Census and income in 1949 (Mutchler & Poston, 1983; Hauser & Warren, 1997; Nakao & Treas, 1994; Nam & Boyd, 2004). Duncan's

SEI has significantly influenced contemporary social science methodologies, but it has also been the subject of some controversy. The alternations of occupational classification and occupational income on the one hand and educational characteristics on the other have led to questions about the validity of the regression model and the constancy of the prestige ratings. Also, the original SEI was established for a male labor force, failing to consider female workers and thus, total workers (Stevens & Featherman, 1981; Mutchler & Poston, 1983). Therefore, there are many updated versions of the SEI. The Hauser-Warren SEI is one of them.

Combing data from the 1989 General Social Survey and the 1990 Census, Hauser and Warren estimated a new set of socioeconomic indexes by regressing occupational prestige scores on indicators of education and earnings. They constructed three indexes of occupational socioeconomic status including male-based, female-based, and total-based, which improved on the original SEI (Hauser & Warren, 1997). The new indexes are applicable to data sets in which occupational data were coded according to the 1990 Census occupational scheme.

5. HYPOTHESES

This paper explores whether earning differences exist between Chinese Americans and non-Hispanic native Whites at the same level of occupational socioeconomic status. If Chinese Americans in general earn less than non-Hispanic native Whites when other productivity-related variables are controlled, then racial discrimination is a conceivable reason of earnings disparity. Further, Chinese Americans would fit the majority-minority paradigm. Conversely, if there is no statistically significant evidence of earning disparities between Chinese Americans and non-Hispanic native Whites, then the findings of this research would be inconsistent with the racial-discrimination hypothesis.

However, overall inequality or parity might mask underlying differences in economic assimilation among this diverse ethnic group. To accurately assess the assimilation process, I therefore categorize Chinese Americans into three subgroups: U.S.-born Chinese Americans (UBC), U.S.-educated Chinese immigrants (UEC), and foreign-educated Chinese immigrants (FEC). Each subgroup was compared with non-Hispanic native Whites (UBW), and three comparisons were designed to disentangle the effects of race, nativity, and place of education on economic assimilation (Zeng & Xie, 2004):

1. Effect of race: compared earnings between U.S.-born non-Hispanic Whites (UBW) and U.S.-born Chinese Americans (UBC).

2. Effect of nativity: compared earnings between U.S.-born Chinese Americans and China-born but U.S.-educated Chinese immigrants.

3. Effect of place of education: compared earnings between U.S.-educated Chinese immigrants and foreign-educated Chinese immigrants.

6. DATA AND VARIABLES

I used data from the 2008-2012 five-year sample data from the American Community Survey, via the Census Integrated Public Use Microdata Series (IPUMS) (Ruggles, Genadek, Goeken, Grover, & Sobek, 2015). After selecting all full-time working persons ages 16 to 64 in the labor force during the census year, the final sample included 62,173 persons who self-identified as Chinese (Taiwanese excluded) and 3,530,127 persons who were U.S.-born non-Hispanic Whites.

For the multivariate analysis, I estimated a standard Ordinary Least Squares (OLS) regression model, which regressed earnings on the four groups and occupational socioeconomic scores, controlling for other factors related to earnings. The dependent variable was the log of personal income earned from wages or a person's own business or farm in the previous year. I took the natural logarithm of personal earnings because the raw-dollar earnings may have been subjected to a high degree of positive skew in its distribution.

The primary independent variables were four dummy variables indicating group characteristics: UBW, UBC, UEC, and FEC. The IPUMS data set provides detailed information pertaining to race and ethnicity, nativity, immigration, and education level, but does not include any variable indicating the place of education, so where immigrants attained their highest educational degree was unknown. Inspired by Zeng and Xie's solution (2004), I created a proxy measure by evaluating the relationship between age at immigration and the highest educational degree attained. I first extracted

all Chinese immigrants in the sample and then divided them into six subgroups according to highest educational attainment: some high school, high school, some college, bachelor's degree, master's degree, and doctorate. The next step was to impose age restrictions on each group to separate the U.S.-educated persons from foreign-educated persons. For example, in the bachelor's degree group, if a person's immigration age was no greater than 20, then I classified this person as U.S. educated; in the master's degree group, if a person's immigration age was no greater than 25, then this person was assumed to be educated in the United States; in the doctorate group, persons whose immigration age was no greater than 30 were assumed to be U.S. educated.

The other independent variables were occupational status variables: Hauser-Warren Socioeconomic Index and Nam-Powers-Boyd Occupational Status Score on the basis of the 1990 Census classification. Because of the conceptual differences between these two indexes (discussed previously), I was further interested in testing their empirical difference by introducing them into the OLS regression model, thinking that the result would be a contribution to social science methodology. Additionally, I used the two occupational status indexes for a practical reason: they are very convenient for describing socioeconomic achievement. Moreover, I included interaction terms between the occupational status variables and the four group variables to measure whether the earnings return rates related to occupational socioeconomic status varied by race, nativity, and place of education. In addition to group status variables and occupational status variables, I also included the control variables of age, sex, residential region,

education, years in the United States, English proficiency, and log hours worked per week in the census year.

7. FINDINGS

7.1. Descriptive Statistics

Table 2 presents descriptive statistics for all four subgroups. Figures 1-3 illustrate the associations between education and earnings by race, nativity, and place of education. As shown in Table 2, the UEC group had the highest status—measured by earnings, educational attainment, occupational standing—followed by UBC, UBW, and FEC. As for personal annual earnings, UEC had higher median earnings ($69,562) than UBC ($63,175), UBW ($44,948), and FEC ($34,888). Regarding educational attainment, UEC had a significantly higher proportion of master's degrees, PhDs, and professional degrees, followed by UBC and then UBW. Nearly 90% of UEC were highly educated immigrants, while over 40% of FEC had an educational level of high school or below. About half of UBC held a bachelor's degree.

In terms of occupation, UBC had the highest proportion of people who worked in managerial positions, followed by a slightly lower proportion of UEC. UBC and UEC tended to be employed in professional occupations. FEC were least likely to work in managerial positions, and they were significantly more likely to work in service occupations than were the other three groups. The most discernable difference were found in the occupations of farming, production, and other: a much lower proportion of UBC and UEC than UBW and FEC worked in these occupations. Table 2 also shows the diverse socioeconomic statuses of the four subgroups. Similar to the rankings of earnings and education, UEC had the highest mean and median scores on the two

Table 2. Descriptive Statistics

	White natives (UBW)	Chinese Americans (UBC)	U.S.-educated Chinese immigrants (UEC)	Foreign-educated Chinese immigrants (FEC)
Median annual earnings	$44,948	$63,175	$69,562	$34,888
Educational attainment:				
% High school or below	30.09	6.01	6.21	43.42
% Some college	32.64	14.81	10.64	10.63
% Bachelor's degree	23.66	48.58	21.88	16.90
% Master's, PhD, or other professional degree	13.60	30.61	61.16	29.05
Occupation:				
% Managerial	17.51	25.94	22.13	13.25
% Professional	19.61	35.23	43.16	22.32
% Technical, sales, and administrative support	28.17	27.38	25.37	24.63
% Service	9.06	5.34	4.97	25.09
% Farming, production, and other	26.64	5.45	3.97	14.62
Mean age	43.6	37.6	37.4	45.9
Sex Composition:				
% Male	58.16	55.85	55.91	51.81
% Female	41.84	44.15	44.09	48.19
Hauser-Warren SEI				
Mean	39.76	49.68	54.52	38.64
Median	38.27	48.78	58.54	33.82
Nam-Powers-Boyd Score				
Mean	67.30	78.99	80.11	53.08
Median	59.40	83.00	84.10	48.90
N	3,530,127	11,135	10,653	18,389

Data source: ACS 2008-2012 Five-year Estimate, IPUMS

indexes, followed by UBC, UBW, and finally FEC. The four subgroups' respective rankings remained the same no matter which occupational standing score was used.

As shown in Figure 1, Chinese Americans in total earned more than native non-Hispanic Whites, nevertheless the mean earnings of Chinese Americans were constantly lower than that for Whites at each educational level. The earnings gaps became smaller at the college level and above compared to at the high school level and below. Hence, the overall earnings parity with Whites that Chinese Americans have reached might be explained by Chinese overachievement in educational attainment—nearly 80% of Chinese Americans had bachelor's degrees or higher.

Figure 2 further distinguishes Chinese Americans by nativity: U.S.-born Chinese Americans and China-born Chinese immigrants. On average, Chinese individuals are not disadvantaged in earnings compared to native non-Hispanic Whites. Chinese Americans earned discernably more than Chinese immigrants and native non-Hispanic Whites at the higher educational levels. Chinese immigrants, however, consistently earned less than native workers at each level of educational attainment; this could be the effect of nativity.

Figure 3 represents the earnings of U.S.-educated Chinese immigrants (UEC) and foreign-educated Chinese immigrants (FEC). The data in the figure show that U.S.-educated Chinese immigrants earned the same as U.S.-born Chinese (UBC), on average, but UEC had lower earnings than UBW and UBC at almost all educational levels. Because over 90% of UEC attained college-level education or higher in the United States, UEC achieved overall earnings parity with UBC. But FEC repeatedly had the

lowest earnings among the four groups at all levels of education. Thus, the fact that FEC routinely earned less might be accounted for by their nativity and place of education.

Figure 1. Mean annual earnings of U.S.-born non-Hispanic Whites and Chinese Americans

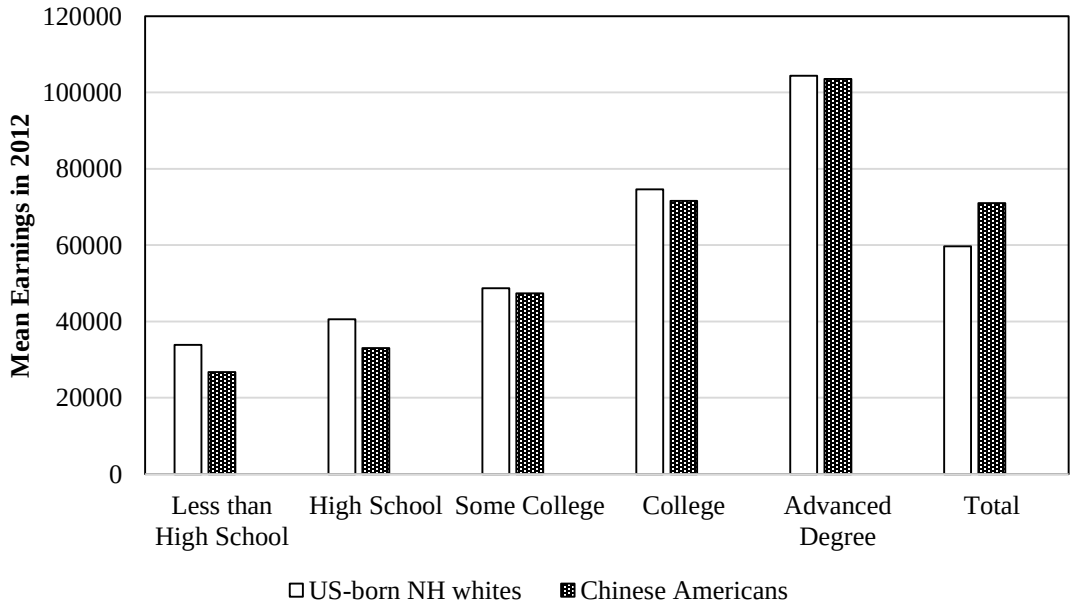


Figure 2. Mean earnings of U.S.-born non-Hispanic Whites and Chinese Americans, by nativity

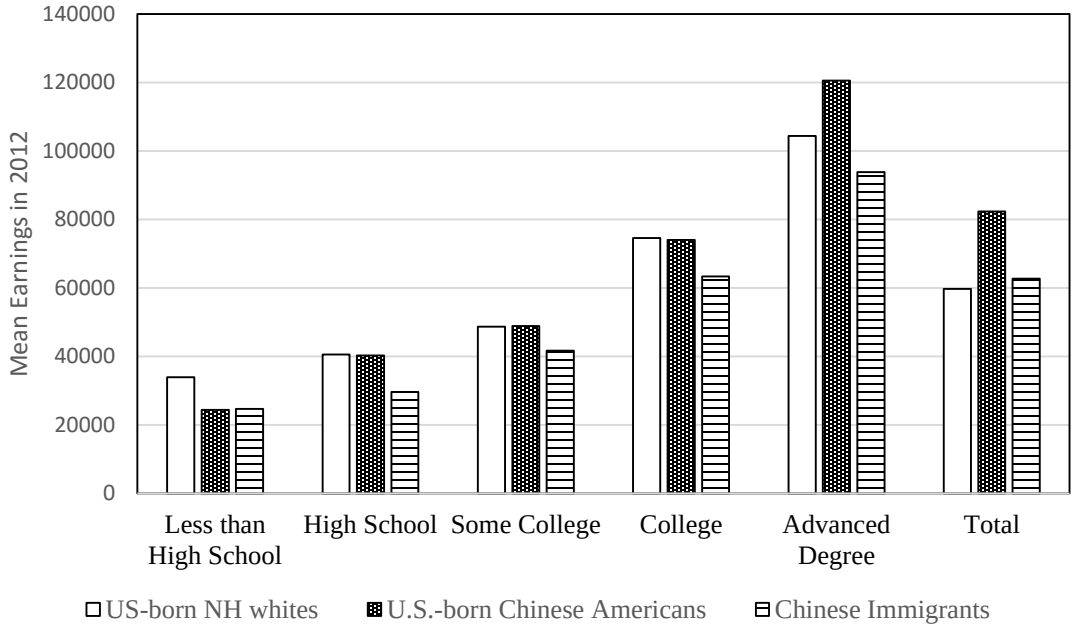
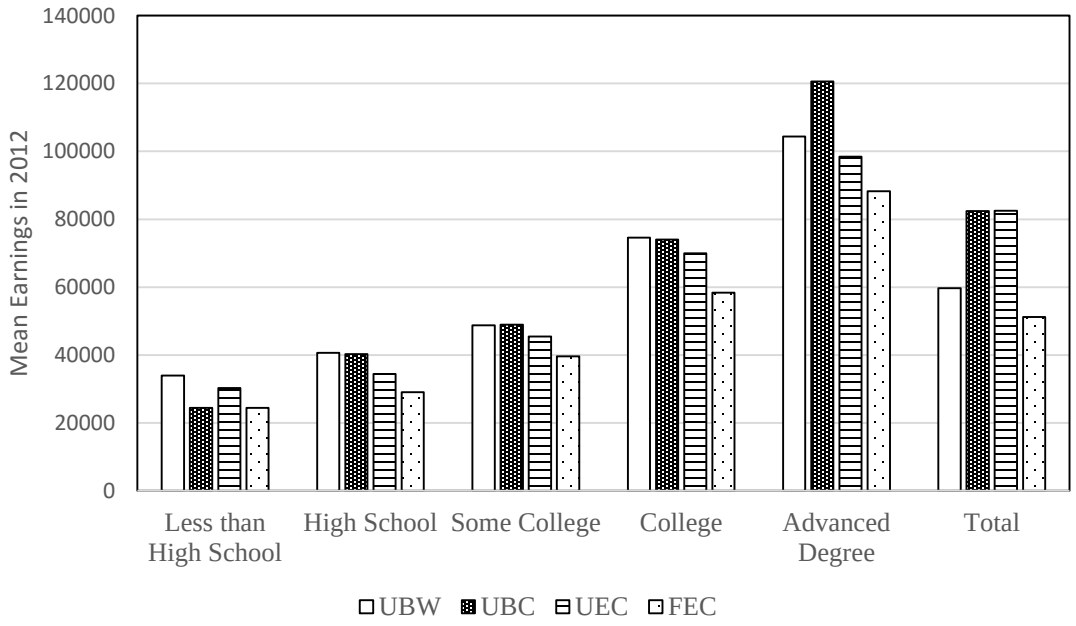


Figure 3. Mean earnings of U.S.-born non-Hispanic Whites and Chinese Americans, by nativity and by place of education



7.2. Multivariate Analysis

Table 3 shows the results of the OLS regression of log earning for UBW, UBC, UEC, and FEC. UBW is the reference group. The only difference between Model 1 and Model 2 is that Model 1 used the Hauser-Warren Socioeconomic Index, whereas Model 2 used the Nam-Powers-Boyd Occupational Status Score. As shown in Model 1, no negative disadvantage is reported for U.S.-born Chinese Americans compared with native White workers, but the earnings parity is not statistically significant. All Chinese immigrants earned significantly less than native workers. Specifically, with other variables controlled, U.S.-educated Chinese immigrants earned 13% less than native non-Hispanic Whites in the year before the census, and foreign-educated Chinese immigrants earned 56% less than native non-Hispanic Whites in that year. In addition, I conducted a paired t-test to compare group differences for the pair of UBC and UEC and another for the pair of UEC and FEC.

The results of the t-tests indicate significant mean differences in earnings between UBC and UEC and between UEC and FEC ($p < .000$). Based on the findings of Model 1 and the t-test of pairwise group differences, I conclude that U.S.-educated Chinese immigrants earned significantly less than U.S.-born Chinese Americans, which supports the hypothesis of the nativity effect. Foreign-educated Chinese immigrants were most likely to be disadvantaged in earnings among the four groups, which supports the hypotheses pertaining to nativity and place of education.

Regarding the rates of earnings returns to occupational status, U.S.-educated Chinese immigrants received significantly lower earning returns to their occupational

Table 3. Estimated Regression Coefficients from Earning Estimations

	Model 1 with Hauser-Warren Socioeconomic Index		Model 2 with Nam-Power-Boyd Occupation Score	
	Coefficients	SE	Coefficients	SE
Intercept	6.7832	.0093	7.3072***	.0102
UBC	.0273***	.0223	.0629***	.0153
UEC	-.1256***	.0277	-.1884***	.0096
FEC	-.4479***	.0156	-.5252***	.0000
H-W SEI	.0157***	.0003		
UBC*HWSEI	.0001	.0004		
UEC*HWSEI	-.0016***	.0005		
FEC*HWSEI	.0033***	.0003		
N-P-B Occupational Score			.0039***	.0001
UBC*NPBOSS			.0003	.0001
UEC*NPBOSS			.0002***	.0001
FEC*NPBOSS			.0036***	.0002
Sex	.2906***	.0008	.2650***	.0008
Age^2	.0002***	.0000	.0002***	.0000
Education	.1648***	.0004	.2927***	.0004
English Proficiency	-.0641***	.0017	-.0689***	.0018
Log Hours work per week	.7448***	.0002	.7129***	.0025
Years in the U.S.	.0128***	.0005	.0123***	.0005
Adjusted R^2	.28		.23	

Note. * = $p \leq .05$, ** $p \leq .01$, *** $p \leq .00$.
Data source: ACS 2008-2012 Five-year Estimate, IPUMS

statuses measured by the Hauser-Warren Socioeconomic Index, as suggested by the negative coefficient of the interaction of UEC and the Hauser-Warren SEI. Moreover, it seems that U.S.-born Chinese Americans had higher earning returns to occupational

standing, but this association is not statistically significant. Only foreign-educated Chinese immigrants enjoyed a significantly higher return rate with respect to native non-Hispanic Whites.

Model 2 produced evidence consistent with Model 1 but there are also some differences. The results from Model 2 reveal that U.S.-born Chinese Americans neither earned significantly less than native non-Hispanic Whites (i.e., the coefficient of UBC was positive) nor did they receive significantly lower rates of return to occupational standing (i.e., the interaction term is also positive). In other words, U.S.-born Chinese Americans reached economic parity with their White counterparts. However, Chinese immigrants received significantly lower earnings than native non-Hispanic Whites. For example, with other variables controlled, U.S.-educated Chinese immigrants earned 21% less annually than native non-Hispanic Whites; foreign-educated Chinese immigrants had 69% lower annual earnings than native non-Hispanic Whites. Slope differences are evident in the Chinese groups (i.e., UBC > UEC > FEC). Pairwise t-tests further confirmed that group differences between UBC and UEC and between UEC and FEC were statistically significant ($p < .000$). The rates of return to occupational standing in Model 2 varied from those in Model 1. No negative effect of the interaction is observed in all Chinese groups, indicating that they did not get lower rates of return compared to their White counterparts. However, the lower rates are not statistically significant for U.S.-educated Chinese immigrants.

In sum, U.S.-born Chinese Americans appear to enjoy favorable labor market outcomes (i.e., higher earnings and return rates) with respect to their White

counterparts, which does not support the hypothesis of racial discrimination. They also had higher earnings than U.S.-educated Chinese immigrants, which provides evidence to support the nativity hypothesis. Foreign-educated Chinese immigrants are again identified as the most disadvantaged group because of their lower earnings and return rates compared with the other three groups, a finding that strengthens the hypotheses of nativity and place of education.

8. CONCLUSION

The path of Chinese assimilation has not been very well understood to date because of the lack of research interest and the weak explanatory power of the majority-minority paradigm. Traditional assimilation theory tends to describe assimilation as an enduring process of immigrants increasing their socioeconomic attainment. As immigrants spend more time in the United States, their knowledge, skills, and capacities specific to the U.S. labor market will be accumulated and acculturated; consequently, their socioeconomic statuses converge to the mean. From this perspective, successful assimilation means that the earnings of immigrants rise after arrival until they eventually reach parity with Whites.

In this paper I do not attempt to offer an alternative theory of Chinese Americans' assimilation into U.S. society. Instead, I provide evidence to better understand their assimilation. The overall earnings of contemporary Chinese Americans suggest that they have reached parity with native Whites, reflected by mean earnings that are higher than those of their White counterparts (see Figure 1). However, such results cannot be simply interpreted as successful assimilation of Chinese immigrants. When I separated the whole Chinese group into three subgroups by nativity and place of education to measure their socioeconomic attainments, distinctive patterns of assimilation appeared.

Nativity and place of education were shown to play crucial roles in the economic assimilation of Chinese immigrants. U.S.-educated Chinese immigrants

almost reach overall earnings parity with U.S.-born Chinese Americans (see Figure 3). After controlling for several earnings-related variables, however, the results from Model 1 and Model 2 indicate that U.S.-educated Chinese immigrants earn less than their native counterparts. Moreover, both the descriptive statistics and the model results demonstrate that foreign-educated Chinese immigrants are most likely to be at a significant disadvantage in earnings. In addition to their non-U.S. nativity, their disadvantaged status can also be attributed to the human capital they attained overseas being less significant in the U.S. job market than educational degrees earned in the United States.

My research did not find significant evidence to claim that U.S.-born Chinese Americans are economically disadvantaged. Conversely, they appear to enjoy a slightly favorable status compared to native non-Hispanic Whites, which suggests that they do not experience racial injustice in the U.S. labor market. Having an accurate identification of the socioeconomic status that U.S.-born Chinese Americans attain has important implications for understanding the second generation of Chinese immigrants. Based on the empirical findings in this paper, it can be inferred that U.S.-born Chinese Americans do not need over-education to achieve overall parity with Whites. On the one hand, their earnings specific to educational attainment are not lower than that of non-Hispanic Whites, particular at the higher levels of education (see Figures 2 and 3); on the other, they receive the same degree of earnings returns to occupational standing according to either occupational socioeconomic index that was used (see Table 3). As many scholars and the media have noted, Chinese Americans are dramatically

overrepresented at elite U.S. schools (Zhou, 2009), which may offer a plausible reason why they are able to acquire higher earnings and occupational status compared to their White counterparts.

Another interesting finding in this paper is the socioeconomic variance associated with U.S.-educated Chinese immigrants. In general, U.S.-educated Chinese immigrants earn as much as U.S.-born Chinese Americans and obtain the highest scores on the two indexes. But, after controlling for earnings-related variables and occupational standing variables, their favorable status disappears. It is not difficult to understand this variance. The high concentration (82%) of higher educational attainment (i.e., bachelor's degree or higher) of U.S.-educated Chinese immigrants allows the average earnings of this group to rapidly increase. Similarly, with the vast proportion of professionals, U.S.-educated Chinese immigrants gain relatively higher scores on occupational standings indexes. Hence, U.S.-educated Chinese immigrants are those who must attain more education in order to achieve earnings parity with native workers; the overrepresentation of Chinese students in the STEM fields in U.S. universities is the reason why U.S.-educated Chinese immigrants have attained higher socioeconomic scores.

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